ARTHRITIS STATE PLAN

2003 - 2007

Vermont Department of Health
Agency of Human Services
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I. EXECUTIVE SUMMARY

Arthritis and other rheumatic conditions are among the most common chronic conditions and the leading cause of disability (activity limitation) in the United States.

Development of National Arthritis Services

Arthritis was the last major chronic disease to receive national attention. The National Arthritis Act of 1975 began to remedy this deficit by authorizing substantial expansion of arthritis education, treatment training and research. Its four major recommendations were implemented between 1975 and 1998. The ***National Arthritis Action Plan*****,** published in 1999, was the first systematic national plan for addressing arthritis, and is the basis for state public health Arthritis Plans across the country, including the Vermont State Plan.

Burden of Arthritis

While arthritis may now be recognized as a leading cause of disability in the United States, it is not yet seen as a major public health issue in many states, including Vermont. Lack of sufficient federal and state funding and the prevailing medical focus on disease mortality rather than quality of life, contribute to the lack of public, professional and state attention. Nevertheless, arthritis constitutes a major public health issue in Vermont with 27% of all adults and 57% of adults over 65 in Vermont affected by arthritis and health care costs averaging $172 million dollars a year.

Risk factors The three types of risk factors that increase an individual's likelihood of developing a disease are used to detail a Vermont arthritis risk profile and help determine the target populations for program interventions.

State Plan Goals

The five State Plan goals discussed are:

1) Promote supportive health systems and policies;

2) Increase awareness of arthritis through education and outreach;

3) Expand adult programs;

4) Identify prevalence and primary service needs of children and adolescents with arthritis; and,

5) Measure trends and evaluate services.

II. HISTORY OF PUBLIC HEALTH ARTHRITIS SERVICES

Although arthritis is the most prevalent chronic disease and the leading cause of disability in the United States, it is often poorly understood by the general public and professionals.

Arthritis is the last major chronic disease to receive national attention. The National Arthritis Act of 1975 authorized substantial expansion of arthritis education, treatment, training and research. The Act's four major recommendations were slowly implemented between 1975 and 1998. In 1982, Multipurpose Arthritis and Musculoskeletal Disease Centers were established at six universities to carry out research on arthritis and musculoskeletal diseases. In 1986, the National Institute of Arthritis and Musculoskeletal and Skin Diseases was established at the National Institutes of Health to promote arthritis research.

The ***National Arthritis Action Plan*****,** published in 1999, was the first systemic national plan for addressing arthritis. It presented a comprehensive public health approach and a clear framework for developing arthritis services and awareness. It provided the impetus for the CDC Arthritis Program's receipt of its first significant federal appropriation in 1998. The National Arthritis Action Plan is the basis for state public health Arthritis Plans across the country and is the foundation for the Vermont State Arthritis Plan.[i]

Once this important foundation document was in place, the Center for Disease Control's Arthritis Program initiated comprehensive efforts to improve the health and quality of life for the millions of Americans with arthritis and related rheumatic conditions. Between 1998 and 2004:

- Federal arthritis funding increased from 10 million dollars to 14.8 million;
- the core partnership between the Arthritis Foundation and the CDC Arthritis program was established;
- an initial group of eight state health departments received funding to develop and expand their arthritis programs in 1999, and 28 additional states received basic program funding during the next 5 years;
- national surveillance methods were expanded and improved;
- evaluation of self management education and exercise programs began; and, national health communication and education materials and campaigns were developed.[ii]

The Vermont Department of Health first received CDC arthritis grant funds in September, 1999. A Chronic Disease Epidemiologist was assigned to work part-time to develop the initial VDH program. The hiring of a full-time Program Manager in October, 2002, resulted in the rapid development of a Vermont Arthritis Coalition and identification of collaborative pilot projects as the most effective way of developing programs to serve people with arthritis in a small, mountainous, rural state.

III. THE BURDEN OF ARTHRITIS

What is Arthritis? Arthritis is not a single disease: it is a family or a pleomorphic disease with over 120 different forms affecting many different parts of the musculoskeletal system, including both inflammatory and "wear and tear" conditions. Most forms of arthritis have something to do with one or more joints in the body. A more accurate definition would be "problems with the joint, ligaments, tendons and muscles near the joint."[iii] Rheumatism is a broader term that encompasses all kinds of pain and stiffness in the muscles and joints. The Centers for Disease Control's Arthritis Program routinely refers to arthritis conditions as "arthritis and other rheumatic conditions" or AORC. The most common forms of arthritis are Osteoarthritis, Rheumatoid Arthritis, Fibromyalgia, Bursitis, Gout, Lupus, Juvenile Arthritis, Scleroderma, Ankylosing Spondylitis and Dermatomyositis.

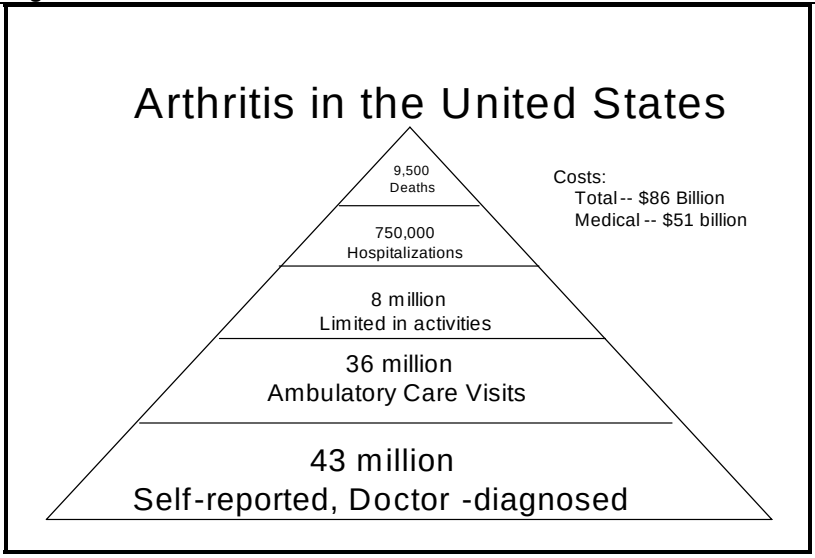
IN THE NATION

Arthritis and related conditions affect 43 million people, or nearly one of every six Americans, making it one of the most common chronic diseases in the United States. By the year 2020 it is expected to affect an estimated 60 million Americans, or almost 20% of the population. Approximately two thirds of those affected will be women. If the arthritis prevalence rate remains stable, by 2030, 25% of the total population will be affected due to the continuing aging of the population.[iv] These figures are conservative since they do not fully address either the current trend of increasing adult obesity or the estimated 23 million additional adults with chronic joint pain who have not been diagnosed by a physician as having arthritis.

Arthritis is the nation's leading cause of disability, limiting everyday activities for 16 million Americans. Nearly two-thirds of people with arthritis are younger than 65 years.[v] Almost 38% of adults with doctor-diagnosed arthritis report limitations in their customary daily activities.

Figure 1.

In the United States, arthritis costs the U.S. economy more than $86.2 billion dollars annually. It results in 39 million physician visits and more than a half million hospitalizations. Among adults with doctor-diagnosed arthritis, 38% report limitations in their customary daily activities and 31% of working age adults report being limited in their work activities. Arthritis is second only to heart disease as a cause of work disability.



Source: MMWR, May 14, 2004 / 53 (18); 388 -389

IN VERMONT

While arthritis has been recognized as a leading cause of disability in the United States for many years, it is only recently that there has been a statewide public health focus on arthritis in Vermont.

Vermont Behavioral Risk Factor Surveillance Survey 2003 data[vi] shows that:

- Arthritis and chronic joint symptoms effect about 208,000 or 44% of adult Vermonters.
- 64% of adults with doctor-diagnosed arthritis are overweight or obese, compared to 51% in the adult population without arthritis.
- More than 39% of Vermont adults report activity limitations due to joint problems, with 33% indicating that arthritis or joint symptoms affect their ability to work for pay.
- Lower income is associated with an increased prevalence of arthritis.
- Vermonters with arthritis experience a higher occurrence of other chronic conditions.
- Arthritis is considered to be a risk factor for other health conditions such as Hypertension and cardiovascular disease.

Vermont Hospital discharge data [vii] provide further information about high medical costs associated with arthritis treatment in Vermont. 2002 hospital data indicate that:

- Total arthritis inpatient charges in Vermont were $39,258,931. 78% or $30,791,031 of These charges were for persons over 55.[viii]
- Total charges for combined inpatient/outpatient/Emergency Room hospital stays were $58,860,261.[ix]
- Approximately two-thirds of those treated in the hospital were women;

ARTHRITIS RISK FACTORS

Risk factors are characteristics or attributes that increase a person's risk for developing a disease or condition. A number of risk factors have been linked to the development of arthritis. Some of these risk factors such as age, gender, genetic predisposition, race and ethnicity are not modifiable. Some risk factors, however, can be addressed through changes in lifestyle, potentially decreasing the risk of arthritis onset or morbidity. These include: physical activity level, obesity status, joint injury and infections and high risk occupations). Other risk factors that are considered potentially modifiable are income, occupation, educational level, and geographic location.

Separating risk factors into these categories allows us to better identify people who need services and target intervention strategies towards reducing disability due to arthritis.

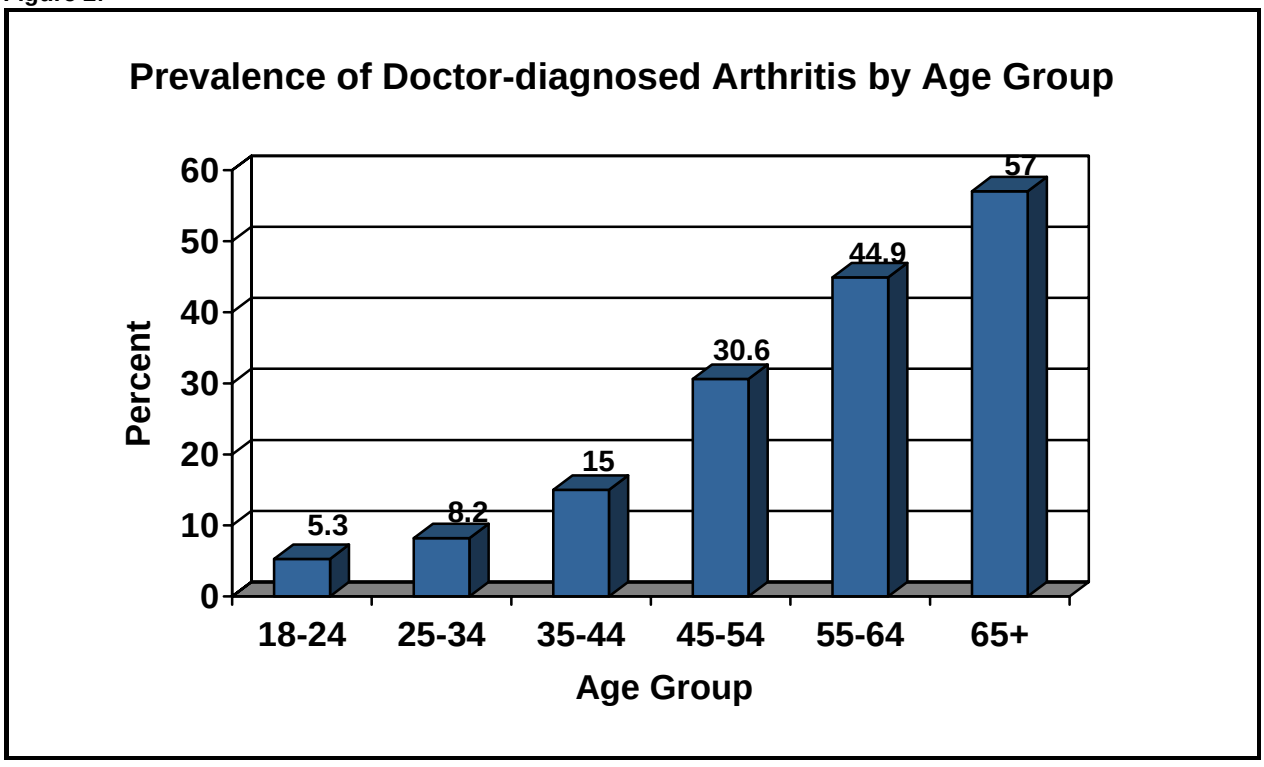
Arthritis Risk Factor Chart

Non-Modifiable Risk Factors	Potentially Modifiable Risk Factors	Modifiable Risk Factors
Age	Education	Physical Activity Level
Gender	Occupation	Diet/Nutrition
Genetic Predisposition	Income	Obesity Status
Race and Ethnicity	Geographic Location	Joint Injury and Infection

AGE

The prevalence of arthritis increases with age in both men and women. Persons who are 65 or older are more than 4 times more likely to have doctor-diagnosed arthritis when compared to persons 18-34 years-of-age.

Figure 2.



GENDER

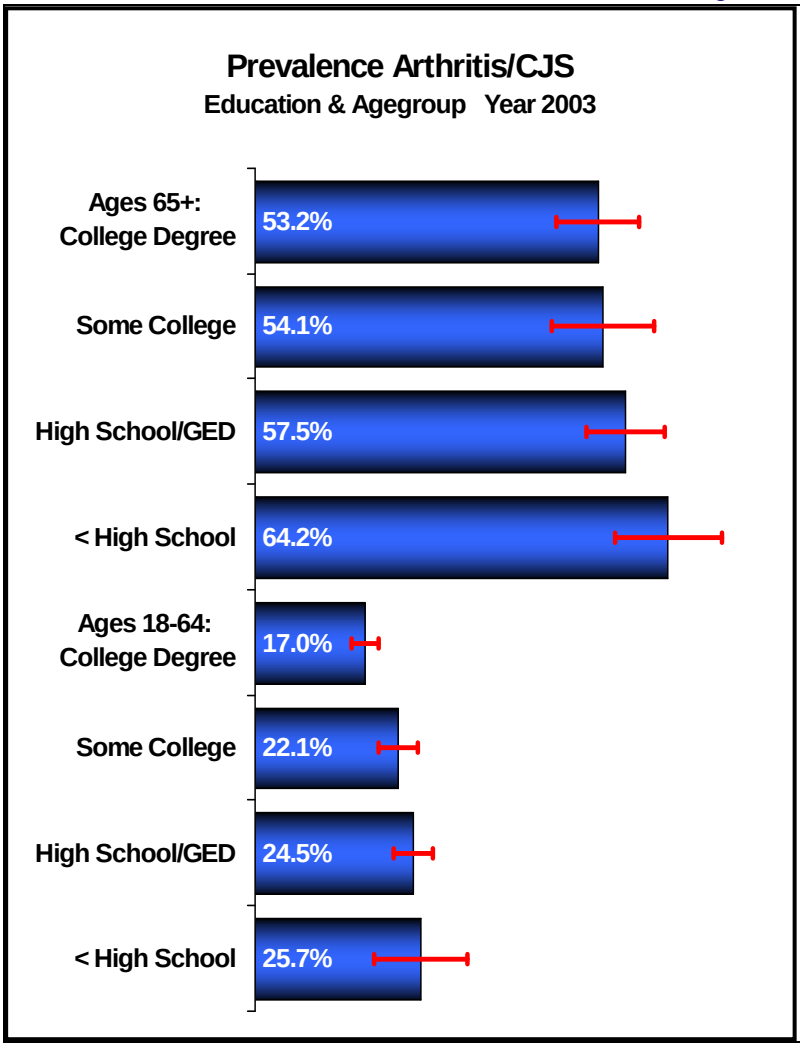
Women are more likely to have arthritis across all age groups. Among Vermont adult females, 31% have arthritis compared to 23% of Vermont adult males.

RACE AND ETHNICITY

Arthritis affects all races and ethnic groups. Vermont's population is 96.8% white. Of the remaining 3.2%, American Indians have the highest prevalence of doctor-diagnosed arthritis with African Americans and Asians having the lowest.

EDUCATIONAL LEVEL

Figure 3.



Vermonters who have less formal education are more likely to have arthritis.

Younger adults (age 18 – 64) with college degrees have a lower prevalence of arthritis than Vermonters of the same age with less formal education.

Adults with a high school education or less are more likely to work in physically strenuous jobs requiring lifting, bending, carrying, or driving that injure joints and develop into forms of osteoarthritis. BRFSS data shows that of those with less than a high school education, about 37% report jobs that are mostly heavy labor, compared to about 13% of those with more than a high school education.

People who are 65 and older have a higher prevalence of arthritis than younger adults regardless of their educational level.

EMPLOYMENT IN HIGH RISK OCCUPATIONS

Adults working in jobs involving heavy physical labor with repetitive movements such as: stooping; bending; pushing; lifting; carrying; twisting; or, reaching will be at high risk for developing some form of arthritis. While farming and construction are two such high risk occupations in Vermont, there are others (heavy industry and occupations with repetitive knee-bending and lifting that stress and eventually damage joints). [x]

GEOGRAPHIC LOCATION

In a 2003 study, the CDC Arthritis Program reported that the prevalence of arthritis or chronic joint symptoms is significantly higher in rural areas compared to urban areas for both males and females, whites, and those with a high school education or less. The prevalence is also higher in rural areas compared to urban areas for people reporting fair/poor health status, the uninsured (18-64 years of age), or those who are physically inactive. In general, people living in rural counties in the United States are 8% more likely to report arthritis or chronic joint symptoms (CJS) than people living in urban counties.[xi] In a largely rural state such as Vermont (12 of its 14 counties are considered rural), this constitutes an important lifestyle and service access issue.

INCOME

Among Vermont adults, lower income is associated with an increased prevalence of arthritis. 29.5% of adults ages 18-64 with an annual household income of less than $20,000 have arthritis compared to 20.5% of those with a household income over $50,000. Although persons who are 65 and older are more likely to have arthritis than younger Vermonters, 64% of these adults living in households with an annual income of less than $20,000 have doctor-diagnosed arthritis, compared to 53% of individuals with a college education.

Figure 4.

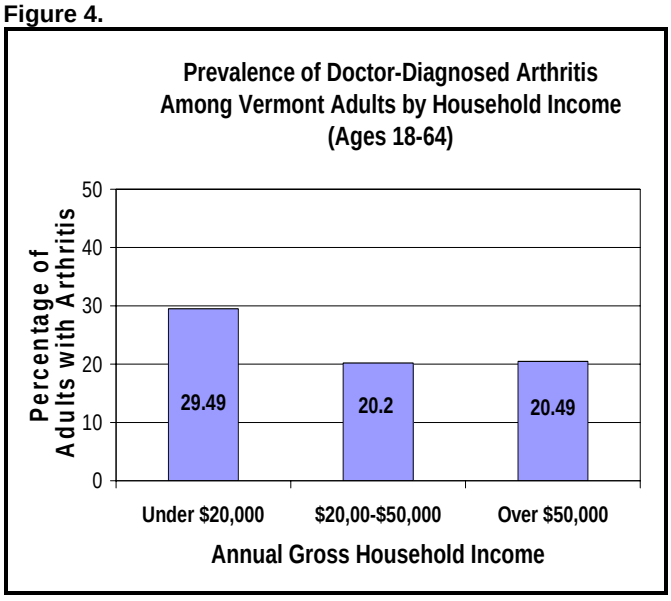
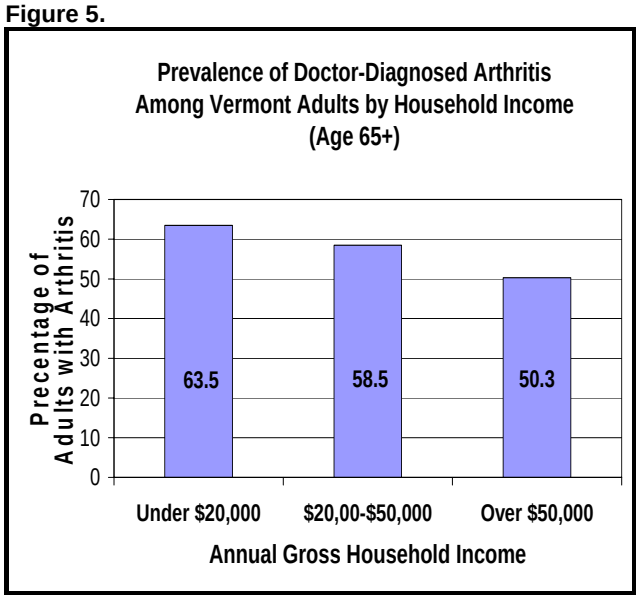


Figure 5.

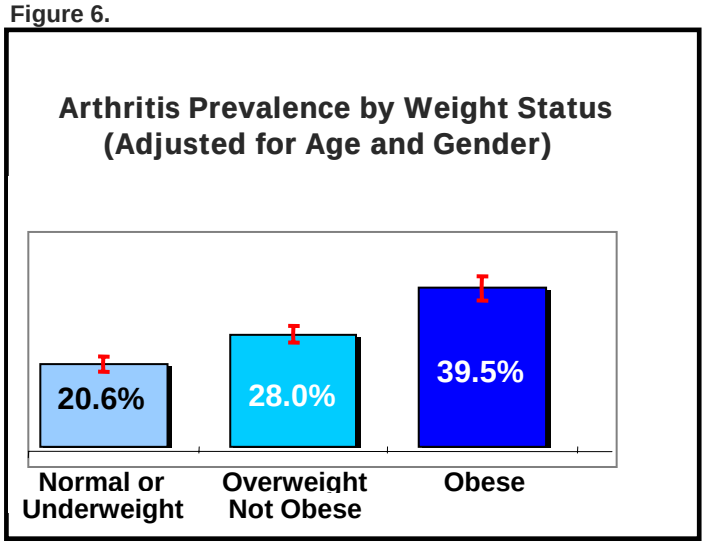


OVERWEIGHT AND OBESITY

Obesity is a major risk factor for arthritis. Over two-thirds of Vermonters with arthritis are overweight or obese. Obese adults [BMI ≥ 30.0] are nearly twice as likely to be diagnosed with arthritis and chronic joint symptoms when compared to normal or underweight Vermonters.

(There is a two to four-fold increased risk of developing osteoarthritis in obese individuals [body mass index (BMI) ≥ 30.0] compared to healthy weight individuals [BMI < 25.0]). Obesity is also associated with increased pain in weight bearing joints. There is specific convincing evidence demonstrating that obesity has a causal role in the development of osteoarthritis of the knee in both males and females and for gout in men.[xii]

Figure 6.



PHYSICAL ACTIVITY

Inactivity may lead to a greater risk of arthritis. In 2003, 52% percent of adult Vermonters with no leisure time physical activity (defined as no exercise, recreation, or physical activities other than job duties during the previous month), reported having arthritis. In addition, 32% of adults with arthritis are physically inactive, with another 25% reporting only some physical activity. Physical inactivity may also put adults with arthritis at risk for other health conditions, including heart disease, high blood pressure, excess weight, depression and anxiety.

TARGET POPULATIONS

To choose its target populations, the Vermont Arthritis Program has used data from the annual Behavioral Risk Factor Surveillance Survey (BRFSS) as indicated below. :

<table>
<tr><th colspan="3">SUMMARY OF BRFSS PRIMARY ARTHRITIS RISK FACTORS</th></tr>
<tr><th>Non-Modifiable Risk Factors</th><th>Potentially Modifiable Risk Factors</th><th>Modifiable Risk Factors</th></tr>
<tr><td rowspan="2">Age:
adults ages 44 – 64;
seniors age 65 and older</td><td>Education:
adults with lower education levels (high school graduation or less)</td><td rowspan="2">Physical Activity Level:
physically inactive or sedentary adults</td></tr>
<tr><td>Employment:
adults working in high risk occupations (farming, construction, etc.)</td></tr>
<tr><td rowspan="2">Gender:
women in both the above age groups</td><td>Income:
adults with incomes under $20,000/year
older adults at all income levels</td><td rowspan="2">Obesity Status:
obese and overweight adults</td></tr>
<tr><td>Geographic Location:
adults living in rural areas</td></tr>
</table>

Combining known risk factors makes it possible to identify high-risk target populations. Identifying these individual risk factors makes it possible to focus on population groups with multiple risk factors and therefore more vulnerable for arthritis-related functional impairment and disability. Examples of such populations would be: *middle-age and older adults who are working as farmers in rural areas, or low income seniors who are physically inactive or sedentary*, etc.

As a state public health program, the Arthritis Program, the Vermont Arthritis Program will also target the small population of children and adolescents with arthritis and other rheumatic diseases. Work will focus on developing prevalence data and professional training for this group.

IV. STATE PLAN GOALS

The Vermont Arthritis Program has identified five goals based on high prevalence risk factors and an additional need to determine the prevalence and service needs of children and adolescents with arthritis and other rheumatic diseases.

GOAL 1. Promote Supportive Health Systems and Policies.

A. Build and maintain effective state and community partnerships.

Effective partnerships with key stakeholders are critical for the success of any public health program. The Vermont Arthritis Program will develop strong, productive working relationships with its primary partners.

- **Establish a strong working relationship with the Northern New England Chapter of the Arthritis Foundation** – The Vermont Arthritis Program will work closely with the Northern New England Chapter of the Arthritis Foundation to promote the Foundation's evidence-based education and aquatic and land exercise programs, and develop media and education initiatives.

- **Develop a state Arthritis Coalition composed of key state and community stakeholders.** A Vermont Arthritis Coalition will be established with medical, allied health workers, state and community professionals and consumers concerned about raising awareness and improving services for people with arthritis. The Coalition and its workgroups will serve in an advisory capacity to the Vermont Department of Health Arthritis Program.

B. Use Coalition partnerships to help develop models for improved health care for adults with arthritis.

Organizational and individual Coalition members will collaborate on projects to develop models or guidelines for use in health education work to improve arthritis health care.

- **Management of arthritis in Primary Care**. Vermont has few rheumatologists. Most of them are located in the medical complex in Burlington, the state's one metropolitan area, and at the Dartmouth Hitchcock Medical Center in New Hampshire. As a result most patients with arthritis and chronic joint symptoms are seen by primary care physicians for assessment and management of their arthritis. In 2003, a collaborative project with key community medical stakeholders to learn more about the nature and scope of primary care management of adults with arthritis will be initiated. The project will lay the foundation for the development of ***Vermont Guidelines for Primary Care Management of Arthritis*****.**

- **Integrated Treatment Model.** Recognizing that many adults with arthritis utilize complementary therapies to supplement conventional medical interventions, the Vermont Arthritis Program will involve Arthritis Coalition members in addressing the

need for collaborative development of a comprehensive integrated treatment model or approach for adults with arthritis. This effort will also assist in developing a portion of the Vermont Guidelines referenced above.

C. Assist occupational groups at high risk for arthritis to access appropriate medical and complementary therapies' services.

Vermont farmers, construction workers, workers in heavy industry, and other adults involved in heavy physical labor will be at high risk for having or developing osteoarthritis. Due to employment circumstances, members of these groups often do not have medical insurance for themselves and their children. Some children will be covered by the Dr. Dynasaur Medicaid Program, while the adults do not qualify for any publicly-supported healthcare. Members of these groups report that they regularly use alternative therapies such as chiropractors to help them manage arthritis symptoms. Program work will target one high risk occupation and focus on determining arthritis prevalence, access to medical services, and use of alternative therapies. This is a second-stage project and work will begin in 2005.

GOAL 2. Increase awareness about arthritis through education and outreach.

A. Increase general public and consumer awareness about arthritis and its management.

Newspaper and radio spots utilizing the CDC Arthritis Program's tested *"Physical Activity - the Arthritis Pain Reliever"* materials will be used to increase community awareness of arthritis and the importance of physical activity and nutrition in managing it. Other statewide and local media work will support the Physical Activity Campaign.

B. Increase professional understanding of arthritis management and treatment for people of different ages and diagnoses.

There are a limited numbers of rheumatologists in the state. Many of these specialists do not see patients full-time, either working in other areas of medicine or carrying out research. As a result, most medical care is provided by primary care practitioners. These providers operate in an acute care system focused on immediate medical needs, in which arthritis often appears to be a low priority disease. This is supported by the general public's widespread belief in arthritis myths -: "it is an old person's disease"; "it is just a normal part of aging" "Everyone has aches and pains."; and, "there is no cure for most forms of arthritis." [xiii]

With limited appointment times in busy practices, patients may not be asked routine arthritis screening questions. Some practitioners are not yet familiar with the importance of self-management activities in managing chronic diseases and may therefore be slow to refer patients to helpful physical activity and/or nutritional programs.

C. Develop musculoskeletal health management resources for occupational groups with, and at, high risk of arthritis.

During 2004 Vermont occupational groups at high risk for arthritis will be identified and the development of key partnerships developed. Working with Coalition and community partners, plans will be made to develop health education materials targeting disease prevention and management issues.

GOAL 3: Expand Adult Programs.

A. Expand community self-management programs.

Self management is an essential prevention strategy for people with arthritis and other rheumatic diseases. The primary public health challenge is to promote programs that fit the needs, culture and resources of the at-risk populations in the state. This means identifying and supporting programs which will be accessible in terms of geography, literacy, costs and cultural interests.

The Vermont Arthritis Program and its partners will address this important goal through:

- promoting existing and developing Department of Health physical activity and nutritional initiatives and programs such as, *Fit and Healthy Vermonters* and *The Blueprint for Health*;

- supporting the development of an evidence-base for, and the expansion of, the existing successful Strong Living community exercise programs for adults;

- working collaboratively with the Northern New England Chapter of the Arthritis Foundation to maintain and expand the Foundation's evidence-based aquatic, PACE exercise, and Arthritis Self Help Courses; and,

- developing exercise programs for sedentary, home-bound adults;

B. Promote public, consumer and professional awareness of the need of people with arthritis to manage recurring pain, psychological distress, general stress, sleep disorders and fatigue.

Learning to manage recurring pain, depression and anxiety, increased stress, and, sleep and fatigue problems are often the most challenging aspects of self-management for people with arthritis and other rheumatic diseases. These issues are core lifestyle issues involving: physical activity; nutrition; activities of daily living; accessibility of home and work environments; and the nature of a person's employment and work. They are influenced by multiple causes and individual choices and are not easily impacted by solitary program interventions.

C. Develop *Working Healthy* arthritis prevention and management at worksites and in occupations at high risk of arthritis.

The Arthritis Program's ***WORKING HEALTHY*** objective addresses worksite and high-risk occupations. It calls for worksite identification and testing of promising employer practices which will: promote early detection of worker's arthritis or chronic joint symptoms; improve management supports for employees with arthritis or chronic joint pain; and, develop practical models for workplace arthritis education and musculoskeletal health**.** It also anticipates that over time a progression of Vermont occupations at high risk of arthritis will be identified (starting with construction workers or farmers) and key partnerships formed to develop education and prevention activities.

GOAL 4: Identify prevalence and primary service needs of children and adolescents with arthritis.

A Vermont Arthritis Coalition Children's Services Workgroup will be established in 2004 to identify prevalence and service needs of children and adolescents with arthritis and other related rheumatic conditions. The Workgroup will address the following two objectives.

A. Identify prevalence of children and adolescents with arthritis and other rheumatic diseases.

No reliable data exists about the number and location of children and youth with arthritis in the state and their unmet service needs.

B. Support self-care lifestyle programming for adolescents and children with arthritis.

It is important for children and youth with a chronic disease to develop (1) the desire to be self-regulating, and (2) the ability to choose and implement effective self-care and healthy lifestyle choices.

GOAL 5: Measure arthritis trends and evaluate services.

This surveillance and evaluation goal supports all the other goals and is essential for the development and implementation of sound planning and programming.

A. Collect and analyze the data necessary to establish a baseline for tracking arthritis trends and identifying program directions.

The Arthritis Program will assess the prevalence, costs and social impact of arthritis and other rheumatic disease in Vermont. Baseline prevalence and hospital data will be obtained and the first State Data Report published. Behavioral Risk Surveillance and Risk

Factor (BRFSS) and hospital discharge data will be collected over time in order to have meaningful information about demographic and prevalence trends.

B. Evaluate all program services.

This objective highlights the need to establish realistic and consistent outcome measures and tracking strategies for program activities. Effective means of evaluating program outcomes will be built in to all major program activity implementation plans. National data collection tools will be used as they become available.

V. CONCLUSION

This Plan combines the philosophy and approach of the *National Arthritis Action Plan* with the specific geographic, historical and cultural needs of Vermont. Over the next five years the Vermont Department of Health's Arthritis Program, working with key stakeholders, will work to develop and implement the five goals and objectives described in this report. The challenge for all program work is to help build informed and effective services which will improve the quality of life for the thousands of Vermonters who suffer from arthritis and related rheumatic diseases.

ENDNOTES

[i] Arthritis Foundation and the Centers for Disease Control and Prevention. National Arthritis Action Plan: A Public Health Strategy. Atlanta, Georgia, 1999.
[ii] Ibid
[iii] Lorig, Kate. Arthritis Help Book, p.3
[iv] CDC MMWR May 30, 2003, 52 (21); 489-491
[v] CDC At A Glance, 2005 Arthritis Website (www.cdc.gov/arthritis/)
[vi] Unless otherwise stated, all report analyses and graphs refer to the 2003 Vermont Behavioral Risk Factor Surveillance Survey (BRFSS).
[vii] Vermont Department of Health Hospital DataBook 2002
[8.] These dollar amounts do not include all pharmacy costs, other medical care expenses, disability, or lost wages
[ix]. Ibid
[x] National Arthritis Action Plan p. 8
[xi] Julie Bolen, Charles G. Helmick, Henry Wells, Jenny Hootman, Arthritis Program Centers for Disease Control and Prevention, The prevalence of arthritis or chronic joint symptoms in urban and rural areas. 2004 unpublished.
[xii]a. Felson DT, Zhang Y. An update on the epidemiology of knee and hip osteoarthritis with a view to prevention. Arthritis Rheumatology 1998; 41(8): 1343-55.
b. Felson DT, Zhang Y, Anthony JM, et al. Weight loss reduces the risk of symptomatic knee osteoarthritis in women. Annuals of Internal Medicine, 1992; 116:535-9.
[xiii] National Arthritis Action Plan, pp. 7-8.